

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In Re Application of:	Date: September 28, 2007
John Bryan IBBOTSON, et al.	Confirmation No. 8913
Serial No: 09/675,468	Group Art Unit: 2173
Filed: September 28, 2000	Examiner: Namitha PILLAI
For: METHOD AND TOOL FOR GRAPHICALLY DEFINING AN EXPRESSION	

Mail Stop Appeal Brief – Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**SUBSTITUTE APPEAL BRIEF**

Dear Sir or Madam:

In response to the Office Communication mailed September 14, 2007, Appellant submits this Substitute Appeal Brief pursuant to 37 C.F.R. § 41.37.

**I. REAL PARTY IN INTEREST**

The real party in interest is International Business Machines Corporation of Armonk, New York by virtue of an assignment from the inventor(s) recorded in the U.S. Patent and Trademark Office on September 28, 2000, at Reel No. 011209, Frame No. 0842.

**II. RELATED APPEALS AND INTERFERENCES**

There are no appeals, interferences, or judicial proceedings known to Appellant, the Appellant's legal representative, or Assignee, which may be related to, directly affect, be directly

affected by, or have a bearing on the decision by the Board of Patent Appeals and Interferences in the pending appeal.

### **III. STATUS OF CLAIMS**

Claims 1-20 have been cancelled. Claims 21-40 have been rejected. Appeal is taken from the rejection of claims 21-23, 33, and 36.

### **IV. STATUS OF AMENDMENTS**

No amendments were filed subsequent to the final Office action dated October 10, 2006.

### **V. SUMMARY OF CLAIMED SUBJECT MATTER**

The present invention is directed to a “tool . . . [that] enables a developer to graphically define expressions for configuring any node . . . of [a] relational message broker” (pg. 17, lns. 4-6). “The invention can be used to program the specifics of how a stream of complex data should be filtered or collated (e.g., merged or joined) with data from a database” (pg. 7, lns. 15-16).

Independent claim 21 recites a tool (30) for graphically defining an expression. The tool (30) includes a graphical user interface component (31) operable to create a graphical definition of the expression based on one or more tree structures, each of the one or more tree structures comprising a plurality of nodes and being associated with one or more lists, wherein each of the one or more lists comprises a plurality of items, each of the plurality of items being associated with a node of the tree structure associated with the respective list. *See, e.g.*, pg. 9, lns. 2-5; pg. 17, lns. 8-17; pg. 18, lns. 7-16; pg. 19, lns. 11-24; pg. 20, lns. 11-26; pg. 22, lns. 1-20; pg. 23,

lns. 5-16; pg. 24, lns. 3-14 and 26-31; fig. 1. The tool (30) also includes an expression generator component (32) coupled to the graphical user interface component, the expression generator component being operable to generate the expression based on the graphical definition created by the graphical user interface component, wherein the expression is adapted to filter or modify one or more messages published by a publisher application prior to delivery of the one or more messages to one or more subscriber applications. *See, e.g.*, pg. 9, lns. 2-5; pg. 18, lns. 18-27; pg. 19, lns. 4-6; pg. 19, ln. 26 to pg. 20, ln. 2; pg. 21, lns. 1-5; pg. 22, lns. 23-27; pg. 23, lns. 19-22; pg. 24, lns. 16-19; figs. 1-2.

Dependent claim 22, which depends from claim 21, recites wherein the expression is adapted to modify at least one of the one or more messages by merging data from one or more databases into the at least one message. *See, e.g.*, pg. 11, ln. 3 to pg. 13, ln. 22; pg. 21, lns. 1-5; pg. 22, lns. 23-27; figs. 1-2.

Dependent claim 23, which depends from claim 21, recites wherein the expression is adapted to modify at least one of the one or more messages by performing one or more computations on data within the at least one message. *See, e.g.*, pg. 16, ln. 11 to pg. 17, ln. 2; figs. 1-2.

Independent claim 32 recites a method for graphically defining an expression. The method includes creating a graphical definition of the expression based on one or more tree structures, each of the one or more tree structures comprising a plurality of nodes and being associated with one or more lists, wherein each of the one or more lists comprises a plurality of items, each of the plurality of items being associated with a node of the tree structure associated with the respective list. *See, e.g.*, pg. 9, lns. 2-5; pg. 17, lns. 8-17; pg. 18, lns. 7-16; pg. 19,

lns. 11-24; pg. 20, lns. 11-26; pg. 22, lns. 1-20; pg. 23, lns. 5-16; pg. 24, lns. 3-14 and 26-31; fig. 1. The method also includes generating the expression based on the created graphical definition, wherein the expression is adapted to filter or modify one or more messages published by a publisher application prior to delivery of the one or more messages to one or more subscriber applications. *See, e.g.*, pg. 9, lns. 2-5; pg. 18, lns. 18-27; pg. 19, lns. 4-6; pg. 19, ln. 26 to pg. 20, ln. 2; pg. 21, lns. 1-5; pg. 22, lns. 23-27; pg. 23, lns. 19-22; pg. 24, lns. 16-19; figs. 1-2.

Dependent claim 33, which depends from claim 32, recites wherein the expression is adapted to modify at least one of the one or more messages by merging data from one or more databases into the at least one message or by performing one or more computations on data within the at least one message. *See, e.g.*, pg. 11, ln. 3 to pg. 13, ln. 22; pg. 16, ln. 11 to pg. 17, ln. 2; pg. 21, lns. 1-5; pg. 22, lns. 23-27; figs. 1-2.

Independent claim 35 recites a computer readable medium containing a computer program for graphically defining an expression. The computer program includes instructions for creating a graphical definition of the expression based on one or more tree structures, each of the one or more tree structures comprising a plurality of nodes and being associated with one or more lists, wherein each of the one or more lists comprises a plurality of items, each of the plurality of items being associated with a node of the tree structure associated with the respective list. *See, e.g.*, pg. 9, lns. 2-5; pg. 17, lns. 8-17; pg. 18, lns. 7-16; pg. 19, lns. 11-24; pg. 20, lns. 11-26; pg. 22, lns. 1-20; pg. 23, lns. 5-16; pg. 24, lns. 3-14 and 26-31; fig. 1. The computer program also includes instructions for generating the expression based on the created graphical definition, wherein the expression is adapted to filter or modify one or more messages published by a

publisher application prior to delivery of the one or more messages to one or more subscriber applications. *See, e.g.*, pg. 9, lns. 2-5; pg. 18, lns. 18-27; pg. 19, lns. 4-6; pg. 19, ln. 26 to pg. 20, ln. 2; pg. 21, lns. 1-5; pg. 22, lns. 23-27; pg. 23, lns. 19-22; pg. 24, lns. 16-19; figs. 1-2.

Dependent claim 36, which depends from claim 35, recites wherein the expression is adapted to modify at least one of the one or more messages by merging data from one or more databases into the at least one message or by performing one or more computations on data within the at least one message. *See, e.g.*, pg. 11, ln. 3 to pg. 13, ln. 22; pg. 16, ln. 11 to pg. 17, ln. 2; pg. 21, lns. 1-5; pg. 22, lns. 23-27; figs. 1-2.

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

1. Appellant requests review as to claims 21-23, 33, and 36, and their rejection under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,243,858 to Mizoguchi et al. (hereinafter “Mizoguchi”), in view of U.S. Patent No. 6,748,374 to Madan et al. (hereinafter “Madan”), and further in view of U.S. Patent No. 6,829,770 to Hinson et al. (hereinafter “Hinson”).

## **VII. ARGUMENTS**

### **1. Claims 22, 33, and 36 Are Patentable Over Mizoguchi, in view of Madan, and further in view of Hinson**

Claim 22, which depends from claim 21, recites wherein the expression is adapted to modify at least one of the one or more messages by merging data from one or more databases into the at least one message.

Mizoguchi, Madan, and Hinson do not, alone or in combination, disclose, teach, or suggest the claimed subject matter.

Mizoguchi is directed to “locat[ing], on a specific grid, module tiles obtained by modularizing and visualizing basic processes, and set the connection between the module tiles to enable the construction of a business application program, thereby making it possible to grasp the flow of data from the beginning to end of the business application program with the passage of time” (col. 1, lns. 53-65 of Mizoguchi).

Madan is directed to a “method and system for representing object-oriented data in a relational database” (col. 4, lns. 28-29 of Madan) and “the generation of a database query language statement to query or manipulate directory information objects in a relational database” (col. 4, lns. 33-34 of Madan).

Hinson is directed to “a publish and subscribe event communications object model and services for delivering events between loosely coupled objects” (col. 1, lns. 9-11 of Hinson). “The model . . . loosely couples the subscriber and the publisher in that the subscriptions are persistent, and the publisher and the subscriber need not have matching lifetimes” (col. 4, lns. 8-11 of Hinson).

- (A)(i) Mizoguchi, Madan, and Hinson do not, alone or in combination, disclose, teach, or suggest “wherein the expression is adapted to modify at least one of the one or more messages by merging data from one or more databases into the at least one message”

Mizoguchi, Madan, and Hinson do not, alone or in combination, disclose, teach, or suggest “wherein the expression is adapted to modify at least one of the one or more messages by merging data from one or more databases into the at least one message,” as recited in claim 22.

In the final Office action, the Examiner states:

Mizoguchi, Madan and Hinson discloses that the expression is adapted to modify at least one of the one or more messages by merging data from one or more databases into the at least one message (Madan, column 4, lines 36-41).

(October 10, 2006 final Office action, pg. 5).

The passage of Madan cited by the Examiner states:

An aspect of the invention is directed to the generation of a database query language statement to query or manipulate directory information objects in a relational database. A feature of this aspect of the invention is the generation of a SQL statement for an LDAP search filter. Another aspect of the invention is directed to the hybrid use of Join operations with other types of aggregation operations in the generated SQL.

(Col. 4, lns. 33-40 of Madan). As seen from above, the cited passage does not mention messages or modifying a message by merging data from a database into the message.

In addition, the “one or more messages” recited in claim 22, was introduced in claim 21, from which claim 22 depends. Specifically, claim 21 recites “the expression is adapted to filter or modify one or more messages published by a publisher application prior to delivery of the one or more messages to one or more subscriber applications.” Hence, the “one or more messages”

recited in claim 22 are the “one or more messages published by a publisher application . . . to [be] deliver[ed] . . . to one or more subscriber applications” recited in claim 21.

With respect to claim 21, which claim 22 depends from, the Examiner states:

Mizoguchi and Madan do not disclose that the items filtered are messages published by a publisher application prior to delivery of the messages to subscriber applications.

(October 10, 2006 final Office action, pg. 4). Thus, the Examiner admits that neither Mizoguchi nor Madan discloses the “one or more messages published by a publisher application . . . to [be] deliver[ed] . . . to one or more subscriber applications” recited in claim 21.

Since neither Mizoguchi nor Madan disclose, teach, or suggest “one or more messages published by a publisher application . . . to [be] deliver[ed] . . . to one or more subscriber applications,” as recited in claim 21, Mizoguchi and Madan also fail to disclose, teach, or suggest “wherein the expression is adapted to modify at least one of the one or more messages by merging data from one or more databases into the at least one message,” as recited in claim 22.

Hinson does not cure the deficiencies of Mizoguchi and Madan. Therefore, even if Hinson were combined with Mizoguchi and Madan, the combination would neither teach nor suggest “wherein the expression is adapted to modify at least one of the one or more messages by merging data from one or more databases into the at least one message,” as recited in claim 22.

Accordingly, Mizoguchi, Madan, and Hinson do not, alone or in combination, disclose, teach, or suggest “wherein the expression is adapted to modify at least one of the one or more messages by merging data from one or more databases into the at least one message,” as recited in claim 22.



(A)(ii) The Examiner has not established a *prima facie* case of obviousness

To establish a *prima facie* case of obviousness, the Examiner must make three basic showings. First, there must be some suggestion or motivation, either in the references or in the prior knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure. (*See, e.g., In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

Since the Examiner has failed to make the three basic showings, no *prima facie* case of obviousness has been established. Therefore, claim 22 is patentable over Mizoguchi, in view of Madan, and further in view of Hinson. Given that claims 33 and 36 each recite elements similar to those of claim 22, claims 33 and 36 are patentable over Mizoguchi, in view of Madan, and further in view of Hinson for at least the same reasons.

**2. Claims 23, 33, and 36 Are Patentable Over Mizoguchi, in view of Madan, and further in view of Hinson**

Claim 23, which depends from claim 21, recites wherein the expression is adapted to modify at least one of the one or more messages by performing one or more computations on data within the at least one message.

Mizoguchi, Madan, and Hinson do not, alone or in combination, disclose, teach, or suggest the claimed subject matter.

Mizoguchi is directed to “locat[ing], on a specific grid, module tiles obtained by modularizing and visualizing basic processes, and set the connection between the module tiles to enable the construction of a business application program, thereby making it possible to grasp the flow of data from the beginning to end of the business application program with the passage of time” (col. 1, lns. 53-65 of Mizoguchi).

Madan is directed to a “method and system for representing object-oriented data in a relational database” (col. 4, lns. 28-29 of Madan) and “the generation of a database query language statement to query or manipulate directory information objects in a relational database” (col. 4, lns. 33-34 of Madan).

Hinson is directed to “a publish and subscribe event communications object model and services for delivering events between loosely coupled objects” (col. 1, lns. 9-11 of Hinson). “The model . . . loosely couples the subscriber and the publisher in that the subscriptions are persistent, and the publisher and the subscriber need not have matching lifetimes” (col. 4, lns. 8-11 of Hinson).

- (B)(i) Mizoguchi, Madan, and Hinson do not, alone or in combination, disclose, teach, or suggest “wherein the expression is adapted to modify at least one of the one or more messages by performing one or more computations on data within the at least one message”

Mizoguchi, Madan, and Hinson do not, alone or in combination, disclose, teach, or suggest “wherein the expression is adapted to modify at least one of the one or more messages by performing one or more computations on data within the at least one message,” as recited in claim 23.

In the final Office action, the Examiner states:

Mizoguchi, Madan and Hinson discloses that the expression is adapted to modify at least one of the one or more messages by performing one or more computations on data within the at least one message (Hinson, column 4, lines 30-37).

(October 10, 2006 final Office action, pg. 5).

The passage of Hinson cited by the Examiner states:

The publisher publishes an event by creating an instance of an event class which exposes the same interface as the subscribers that are to receive the event, and then calling a method in the event class interface. The implementation of the method in the event class issues a counterpart call to every subscriber having a subscription to the event class method. The event class method makes the counterpart call to the matching method and interface of the subscriber.

(Col. 4, Ins. 30-38 of Hinson). As seen from above, the cited passage of Hinson does not mention messages or modifying a message by performing one or more computations on data within the message. Thus, Hinson does not disclose, teach, or suggest “wherein the expression is adapted to modify at least one of the one or more messages by performing one or more computations on data within the at least one message,” as recited in claim 23.

Further, as discussed above, the Examiner admits that neither Mizoguchi nor Madan disclose, teach, or suggest the “one or more messages published by a publisher application . . . to [be] deliver[ed] . . . to one or more subscriber applications” recited in claim 21, from which claim 23 depends. Therefore, even if Mizoguchi, Madan, and Hinson were combined, the combination would neither teach nor suggest “wherein the expression is adapted to modify at least one of the one or more messages by performing one or more computations on data within the at least one message,” as recited in claim 23.

Accordingly, Mizoguchi, Madan, and Hinson do not, alone or in combination, disclose, teach, or suggest “wherein the expression is adapted to modify at least one of the one or more messages by performing one or more computations on data within the at least one message,” as recited in claim 23.

(B)(ii) The Examiner has not established a *prima facie* case of obviousness

To establish a *prima facie* case of obviousness, the Examiner must make three basic showings. First, there must be some suggestion or motivation, either in the references or in the prior knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant’s disclosure. (*See, e.g., In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

Since the Examiner has failed to make the three basic showings, no *prima facie* case of obviousness has been established. Therefore, claim 23 is patentable over Mizoguchi, in view of Madan, and further in view of Hinson. Given that claims 33 and 36 each recite elements similar to those of claim 23, claims 33 and 36 are patentable over Mizoguchi, in view of Madan, and further in view of Hinson for at least the same reasons.

**CONCLUSION**

On the basis of the above remarks, Appellant respectfully submits that the final rejection should be reversed.

Respectfully submitted,  
SAWYER LAW GROUP LLP

Dated: September 28, 2006

/Erin C. Ming/  
Erin C. Ming  
Attorney for Appellant  
Reg. No. 47,797  
(650) 475-1449

**APPENDIX OF CLAIMS**

1-20 (Cancelled)

21. (Previously Presented) A tool for graphically defining an expression, the tool comprising:

a graphical user interface component operable to create a graphical definition of the expression based on one or more tree structures, each of the one or more tree structures comprising a plurality of nodes and being associated with one or more lists, wherein each of the one or more lists comprises a plurality of items, each of the plurality of items being associated with a node of the tree structure associated with the respective list; and

an expression generator component coupled to the graphical user interface component, the expression generator component being operable to generate the expression based on the graphical definition created by the graphical user interface component, wherein the expression is adapted to filter or modify one or more messages published by a publisher application prior to delivery of the one or more messages to one or more subscriber applications.

22. (Previously Presented) The tool of claim 21, wherein the expression is adapted to modify at least one of the one or more messages by merging data from one or more databases into the at least one message.

23. (Previously Presented) The tool of claim 21, wherein the expression is adapted to modify at least one of the one or more messages by performing one or more computations on data within the at least one message.

24. (Previously Presented) The tool of claim 21, wherein the graphical definition of the expression is created based on at least one input data tree structure and at least one output data tree structure, wherein at least one item in the one or more lists associated with the at least one input data tree structure specifies a filtering constraint, and wherein at least one item in the one or more lists associated with the at least one output data tree structure specifies a formatting definition.

25. (Previously Presented) The tool of claim 24, wherein at least one other item in the one or more lists associated with the at least one output data tree structure identifies a node of the at least one input data tree structure.

26. (Previously Presented) The tool of claim 21, wherein the expression is a structured query language statement.

27. (Previously Presented) The tool of claim 21, wherein the one or more messages published by the publisher application are in XML format.

28. (Previously Presented) The tool of claim 21, wherein at least one item in the one or more lists associated with one of the one or more tree structures comprises a free variable or a wildcard symbol.

29. (Previously Presented) The tool of claim 21, wherein at least one of the plurality of nodes in the one or more tree structures is a branch node representing a complex data structure field and at least another of the plurality of nodes in the one or more tree structures is a leaf node representing a simple data structure field, the simple data structure field comprising one of a string, an integer, a real number, and a date.

30. (Previously Presented) The tool of claim 21, wherein the graphical definition of the expression is created based on at least two input data tree structures and wherein at least one item in the one or more lists associated with a first of the at least two input data tree structures identifies a node of a second of the at least two input data tree structures.

31. (Previously Presented) The tool of claim 21, wherein at least one of the one or more tree structures is associated with two or more lists and wherein at least one item from a first of the two or more lists and at least one item from a second of the two or more lists are part of a logical statement in the expression.



32. (Previously Presented) A method for graphically defining an expression, the method comprising:

creating a graphical definition of the expression based on one or more tree structures, each of the one or more tree structures comprising a plurality of nodes and being associated with one or more lists, wherein each of the one or more lists comprises a plurality of items, each of the plurality of items being associated with a node of the tree structure associated with the respective list; and

generating the expression based on the created graphical definition, wherein the expression is adapted to filter or modify one or more messages published by a publisher application prior to delivery of the one or more messages to one or more subscriber applications.

33. (Previously Presented) The method of claim 32, wherein the expression is adapted to modify at least one of the one or more messages by merging data from one or more databases into the at least one message or by performing one or more computations on data within the at least one message.

34. (Previously Presented) The method of claim 32, wherein the graphical definition of the expression is created based on at least one input data tree structure and at least one output data tree structure, wherein at least one item in the one or more lists associated with the at least one input data tree structure specifies a filtering constraint, and wherein at least one item in the one or more lists associated with the at least one output data tree structure specifies a formatting definition.

35. (Previously Presented) A computer readable medium containing a computer program for graphically defining an expression, the computer program comprising instructions for:

creating a graphical definition of the expression based on one or more tree structures, each of the one or more tree structures comprising a plurality of nodes and being associated with one or more lists, wherein each of the one or more lists comprises a plurality of items, each of the plurality of items being associated with a node of the tree structure associated with the respective list; and

generating the expression based on the created graphical definition, wherein the expression is adapted to filter or modify one or more messages published by a publisher application prior to delivery of the one or more messages to one or more subscriber applications.

36. (Previously Presented) The computer readable medium of claim 35, wherein the expression is adapted to modify at least one of the one or more messages by merging data from one or more databases into the at least one message or by performing one or more computations on data within the at least one message.

37. (Previously Presented) The computer readable medium of claim 35, wherein the graphical definition of the expression is created based on at least one input data tree structure and at least one output data tree structure, wherein at least one item in the one or more lists associated with the at least one input data tree structure specifies a filtering constraint, and wherein at least one item in the one or more lists associated with the at least one output data tree structure specifies a formatting definition.

38. (Previously Presented) A system for graphically defining an expression, the system comprising:

means for creating a graphical definition of the expression based on one or more tree structures, each of the one or more tree structures comprising a plurality of nodes and being associated with one or more lists, wherein each of the one or more lists comprises a plurality of items, each of the plurality of items being associated with a node of the tree structure associated with the respective list; and

means for generating the expression based on the created graphical definition, wherein the expression is adapted to filter or modify one or more messages published by a publisher application prior to delivery of the one or more messages to one or more subscriber applications.

39. (Previously Presented) The system of claim 38, wherein the expression is adapted to modify at least one of the one or more messages by merging data from one or more databases into the at least one message or by performing one or more computations on data within the at least one message.

40. (Previously Presented) The system of claim 38, wherein the graphical definition of the expression is created based on at least one input data tree structure and at least one output data tree structure, wherein at least one item in the one or more lists associated with the at least one input data tree structure specifies a filtering constraint, and wherein at least one item in the one or more lists associated with the at least one output data tree structure specifies a formatting definition.

**EVIDENCE APPENDIX**

None

**RELATED PROCEEDINGS APPENDIX**

None